

## QUESTIONS AND ANSWERS

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**I. FREQUENTLY ASKED QUESTIONS:**

**A. If I have questions about this funding announcement, who do I contact?**

**ANSWER:** Please see the FOA guidance on submitting FOA content questions and response publication. Applicants may submit questions regarding this ARPA-E's Funding Opportunity Announcement (FOA) to [ARPA-E-CO@hq.doe.gov](mailto:ARPA-E-CO@hq.doe.gov). All emails must include the FOA name and number in the subject line. The cover page and Executive Summary of the Funding Opportunity Announcement state the deadlines for submitting questions to [ARPA-E-CO@hq.doe.gov](mailto:ARPA-E-CO@hq.doe.gov).

**B. How will I receive a response to questions submitted to [arpa-e-co@hq.doe.gov](mailto:arpa-e-co@hq.doe.gov) about this FOA?**

**ANSWER:** Responses are posted in the "Current Funding Opportunities FAQs" section of ARPA-E's website available at <http://arpa-e.energy.gov/?q=faq/current-funding-opportunities>. In addition, general questions about ARPA-E can be found at <http://arpa-e.energy.gov/?q=faq/general-questions>.

ARPA-E will post responses on a weekly basis to questions that are received. ARPA-E will cease to accept questions approximately 5 business days in advance of each submission deadline. Responses to questions received before the cutoff will be posted approximately one business day in advance of the submission deadline. ARPA-E may re-phrase questions or consolidate similar questions for administrative purposes.

**C. Will ARPA-E post a response to every question submitted to [arpa-e-co@hq.doe.gov](mailto:arpa-e-co@hq.doe.gov)?**

**ANSWER:** No. ARPA-E will only post responses to questions that have not already been addressed by a published FAQ. Also, ARPA-E may consolidate similar questions for administrative purposes.

**D. If I have questions about ARPA-E exchange, who do I contact?**

**ANSWER:** Applicants may submit questions regarding ARPA-E's online application portal, ARPA-E eXCHANGE, to [ExchangeHelp@hq.doe.gov](mailto:ExchangeHelp@hq.doe.gov). All emails must include the name and number of the Funding Opportunity Announcement in the subject line.

**E. Can I speak or meet with the ARPA-E program director or other ARPA-E personnel about this funding opportunity announcement?**

**ANSWER:** No. Upon the issuance of this Funding Opportunity Announcement (FOA), ARPA-E Program Directors and other ARPA-E personnel are prohibited from communicating (in writing or otherwise) with Applicants, or potential Applicants, regarding the FOA. This "quiet period" remains in effect until ARPA-E's public announcement of its project selections. During the "quiet period," Applicants may submit questions regarding the FOA to [ARPA-E-CO@hq.doe.gov](mailto:ARPA-E-CO@hq.doe.gov) with the FOA name and number in the subject line. Applicants may also submit questions regarding ARPA-E's online application portal, ARPA-E eXCHANGE, to [ExchangeHelp@hq.doe.gov](mailto:ExchangeHelp@hq.doe.gov) with the FOA name and number in the subject line. ARPA-E will not accept or respond to communications received by other means (e.g., fax, telephone, mail, hand delivery). Emails sent to other email addresses will be disregarded.

**F. Can a person be PI on one proposal and a Co-PI on a second separate proposal?**

**ANSWER:** Yes, an individual may be on more than one submission – either as a lead or member of a Project Team.

**G. May applicants submit more than one concept paper to this funding opportunity?**

**ANSWER:** Yes, but each Concept Paper must be “scientifically distinct”. This term is used in Section III.C.3 (Limitation on Number of Applications) of the FOA. In this context, the term “scientifically distinct” is used to emphasize that, in the event an Applicant intends to submit multiple concept papers/application, the applicant should propose distinct technical approaches in each application. This prohibition on duplicative applications involves a fact-based determination by ARPA-E to ensure a focused review of each technical concept, and appropriate use of ARPA-E's limited time/resources.

**H. I have developed a technology that may be a good fit for this funding opportunity. Will ARPA-E please review my idea and let me know if it is responsive to this FOA?**

**ANSWER:** ARPA-E will review compliant and responsive concept paper submissions and provide feedback either encouraging or discouraging submission of a Full Application. See Section IV.A (Application Process Overview) of the FOA for Concept Paper review process. Concept Paper submissions are compliant if they meet the requirements of Section III.C.1 (Compliant Criteria) of the FOA, and are responsive if they meet the Program Objectives and other requirements set forth in Section I.C (Program Objectives and Structure) of the FOA and do not fall under Section I.E. (Applications Specifically Not of Interest) of the FOA. Applicants must review the technical requirements of the FOA and independently determine whether their proposed concept warrants a submission.

**I. Are foreign entities eligible to apply to this FOA?**

**ANSWER:** Foreign entities are eligible to apply for funding. See Section III.A.3 (Eligibility Information- Foreign Entities) of the FOA. However, if the project is selected for award negotiations and an award is made, all work must be performed in the United States by subsidiaries or affiliates incorporated in the United States or U.S. territories, unless ARPA-E grants a foreign work waiver to allow performance of part of the work outside of the United States. ARPA-E's grant of a foreign work waiver is a fact dependent, case-by-case determination that is made only in exceptional circumstances and only for discrete parts of an award that necessitate foreign work. Applicants that anticipate the need for a foreign work waiver to perform some work outside of the U.S. should review Section 5 of the Business Assurances & Disclosures Form.

**J. Are individuals eligible to apply to this FOA?**

**ANSWER:** Yes. Individuals are eligible to apply for funding. See Section III.A. (Eligibility Information) of the FOA. However, any ARPA-E award funding would need to be made to a business entity formed by the Applicant, if selected for award negotiations.

**K. Are we required to register for the Teaming List for this FOA?**

**ANSWER:** No. ARPA-E set up the Teaming Partner List for this FOA to facilitate formation of new project teams. There is no requirement for applicants or any team member to sign up/register for the Teaming Partner List. In addition, ARPA-E does not endorse or otherwise evaluate the qualifications of the entities that self-identify themselves for placement on the Teaming Partner List.

**L. I missed the Concept Paper deadline. Can I still submit a Full Application?**

**ANSWER:** No. Only applicants who have successfully submitted a Concept Paper in eXCHANGE by the published deadline are eligible to submit a Full Application to the FOA.

**M. Our project team includes several team members. Does each team member need to contribute cost share equally?**

**ANSWER:** Although the cost share requirement applies to the Project Team as a whole, the funding agreement makes the Prime Recipient legally responsible for paying the entire cost share. See Section III.B.4 for more information on cost sharing. Each Project Team is free to determine how much each team member will contribute towards the cost share requirement. The amount contributed by individual Project Team members may vary, so long as the cost share requirement for the project as a whole is met.

**N. Can you tell me whether my project team qualifies for reduced cost share?**

**ANSWER:** ARPA-E may not provide pre-submission assessments on a project team's specific cost sharing requirement.

**O. Will in-kind contributions count towards meeting our cost share requirements?**

**ANSWER:** Yes, if the in-kind contribution is determined to be allowable, allocable and reasonable by the ARPA-E Contracting Officer. Since this is necessarily fact determinative inquiry, these types of questions are answered based on a review of all relevant information by the Contracting Officer during award negotiations. For general guidance on acceptable cost share contributions and corresponding cost principles used by the ARPA-E Contracting Officer to make these determinations, see 10 C.F.R § 600.313 and § 600.317 (Cost Matching/Sharing and Cost Principles for For-Profit Organizations), 2 C.F.R. § 200.306 and 2 C.F.R. Part 200, Subpart E (Cost Matching/Sharing and Cost Principles for Institutes of Higher Education, Hospitals, Other Nonprofit Organizations, State and Local Governments).

**P. We have a question concerning the impact of a large business seeking patent rights under a class waiver if our team qualifies for reduced cost share of 10%. Does this mean the entire team project is subject to 20% cost share or only the large business' portion of the project will be subject to 20% cost share?**

**ANSWER:** Per Section II.B.3 (Reduced Cost Share Requirement) of the FOA, under this scenario, only the large business' portion of the work under this scenario is subject to the 20% minimum cost share requirement. Please see Section III.B.3 (Reduced Cost Share Requirement), Section III.B.4 (Legal Responsibility), and Section III.B.5 (Cost Share Allocation) of the FOA for more details on the cost sharing requirements. NOTE: If the large business' portion of Total Project Costs is greater than 20%, then the project team's total cost share minimum is 20% since the team as a whole would no longer qualify for the 80/20 labor distribution for reduced cost share, per Section III.B.3 of the FOA.

**Q. Can you tell us whether our project team qualifies for reduced cost share based on the following scenario: [ ]?**

**ANSWER:** ARPA-E may not provide pre-submission assessments on a project team's specific cost sharing requirement.

**R. How should we include references in our Full Application? Do they count towards the overall page limitation for the Technical Volume?**

**ANSWER:** Applicants may provide a list of references in a separate bibliography. Only bibliographic information may be contained in the references, and no additional text or commentary



should be included. There is no page limit for the bibliographic references section of the Full Application.

**S. Our team originally submitted a Concept Paper that listed [organization name 1] as the Prime Recipient. For our Full Application, can we change the lead organization to \*\*\*\* [organization name 2] instead?**

**ANSWER:** Yes, the ARPA-E eXCHANGE system will allow applicants to expand or otherwise modify the Project Team for their Full Applications.

**T. Can I include new Co-PIs and/or subrecipients in my Full Application?**

**ANSWER:** Yes. Applicants may expand or otherwise modify the Project Team for their Full Applications.

**U. My Concept Paper was encouraged. What are my chances of being selected for award negotiations by ARPA-E?**

**ANSWER:** ARPA-E does not provide pre-submission assessments of Applicants' likelihood to receive funding.

**V. Do subrecipients also need to fill out the Business Assurances & Disclosures Form or is this filled out only by the Prime Recipient?**

**ANSWER:** The Business Assurances & Disclosures Form requests information regarding the legal entity submitting the application as the Prime Recipient, the legal entities and/or individuals that are proposed to be Sub-recipients, and the PI/Co-PIs in their individual capacity. The Prime Recipient may submit one Business Assurances & Disclosures Form covering all of the Project Team members if it has authorization and information to answer on their behalf. Alternatively, the Prime Recipient may request Sub-recipients to complete and sign individual Business Assurances & Disclosures Forms that the Prime Recipient will append to its form.

## **II. Questions for week ending: DECEMBER 19, 2014**

**Q1. Will ARPA-E extend the Concept Paper submission deadline for the MOSAIC FOA since the holiday season falls within this time frame?**

**ANSWER:** No.

**Q2. On page 17, the MOSAIC FOA provides: "ARPA-E is seeking solutions where the total module thickness is consistent with current flat panel PV profiles - hence the total height of the MOSAIC modules is limited to < 2.5 cm." The reality is that PV panel with around 10w - 50W rating have a height of 2.5 cm while 300W rooftop panels (the largest category of installed PV panels) have a height under 2 inches.**

**Based on this, would ARPA-E contemplate specifying the height limit of the micro-CPV module to be less than 2 inches in order to allow a greater number of micro-CPV panel designs that may offer a greater efficiency, more stable working system, and more productive use of sunlight?**

**ANSWER:** Per Section I.E (Technical Performance Targets) of the FOA, proposals should articulate a path to a module thickness of 2.5 cm or less. To further clarify, module thickness refers

to a flat panel that does not include the frame, as the frame is not technically part of the module. It is possible that intermediate milestones that fall short of the metrics in Section I.E may still be valuable; however, as provided in Section IV.C (Content and Form of Concept Papers) of the FOA, applicants must “to the extent possible, provide quantitative metrics that compares the proposed technology concept to current and emerging technologies and to the technical performance targets in Section I.E of the FOA for the appropriate Technology Category in Section I.D of the FOA.”

**Q3. In Section I.E (Technical Performance Targets), page 16 second sentence reads: "it is expected that existing commercial tracking methods will be used (ARPA-E will not fund the development of new tracking concepts under this FOA)." Yet in Section I.D (Technical Categories of Interest), Subcategory 1B: the second sentence reads: "Subcategory 1B approaches must therefore include embedded actuation mechanisms within the panel to track the sun as it moves during the day."**

**Please clarify whether ARPA-E seeks research concepts to develop new tracking mechanisms under the MOSAIC FOA, and if so, what types (e.g., external tracking in which the entire panel is tilted or embedded tracking which tracks the sun at a fixed tilt)?**

**ANSWER:** On December 31, 2014, ARPA-E issued a modification to the FOA to clarify this question. Per Section I.E (Technical Performance Targets) of the FOA, “It is expected that existing commercial tracking methods will be used for Subcategories 1A and 2A described below (ARPA-E will not fund the development of new tracker concepts in these Subcategories in this FOA).” ARPA-E will not consider funding work to develop new methods that involve tilting the entire panel, also referred to as “external tracking” or “conventional tracking” in the FOA. Applications seeking funding for new external tracking methods would fall outside the technical parameters of Section I.E of the FOA.

However, Section I.E of the FOA also provides that “Subcategory 1B concepts: “...within a flat panel that may be mounted in fixed-tilt applications, such as residential rooftops. Subcategory 1B approaches must therefore include embedded actuation mechanisms within the panel to track the sun as it moves during the day.” ARPA-E will review compliant and responsive Subcategory 1B concept paper submissions and provide feedback either encouraging or discouraging submission of a Full Application for concepts that include tracking concepts that operate under the constraints set out in Section I.E of the FOA. All approaches that propose such tracking concepts should be identified as being under either Subcategory 1B, 2B or Category 3. Proposed solutions that utilize conventional tracking mechanisms and these should be identified as 1A, 2A or within Category 3

**Q4. Would the MOSAIC FOA grant provide funding for solar panels for a non-profit hospital?**

**ANSWER:** Please see the response to FAQ H above.

**III. Questions for week ending: DECEMBER 26, 2014**

**Q5. Is the Business Assurances and Disclosures Form required for Concept Papers?**

**ANSWER:** No.

**Q6. For Questions 3(a) and 3(b) in the Business Assurances and Disclosures Form, if a faculty member from a university is applying, would the PI have to find out the answers these questions for the entire university (which has a big number of different research groups and might require a poll of the entire university) or can the PI answer just for the Project Team itself?**

**ANSWER:** Questions 3(a) and 3(b) of the Business Assurances and Disclosures Form require disclosure of current and pending other sources of funding for the PI and Co-PI(s) on the Project Team. Please note that the Business Assurances and Disclosures Form should not be submitted with the Concept Paper.

**Q7. For the purposes of determining the solar energy harvesting efficiency of a CPV system, is circumsolar radiation emanating from the sun's aureole considered part of the DNI radiation percentage or part of the diffuse radiation percentage of total insolation?**

**ANSWER:** Circumsolar radiation is considered part of the Direct Normal Irradiance (DNI) radiation percentage, according to the definitions from referenced data in Figure 4 of the FOA. To review Figure 4, please see Section I.B.3.c (Program Overview - Market Expansion Opportunity) of the FOA. This reference defines DNI to encompass a field of view of 5.7 degrees, and circumsolar radiation is defined between 2.5 to 3.5 degrees. Therefore, DNI radiation includes circumsolar radiation. More information can be found in the reference provided in the FOA: [http://rredc.nrel.gov/solar/glossary/gloss\\_c.html#circumsolarradiation](http://rredc.nrel.gov/solar/glossary/gloss_c.html#circumsolarradiation), the numbers from Figure 4 are derived from a comparison of average annual global insolation (Two-axis Tracking Flat Plate) to DNI (Two-axis Tracking Concentrator) referenced from: <http://www.nrel.gov/docs/legosti/old/5607.pdf> and [http://rredc.nrel.gov/solar/old\\_data/nsrdb/1961-1990/redbook/atlas/](http://rredc.nrel.gov/solar/old_data/nsrdb/1961-1990/redbook/atlas/).

**IV. First Deadline for questions: JANUARY 15, 2015**

**Q8. The FOAs specify an energy harvesting efficiency target of  $\geq 30\%$ . Does this target refer to the total light striking the module area, or only that falling within the optics aperture? (i.e., does it take into account the fill factor of the micro-optics?)**

**ANSWER:** The Solar Energy Harvesting Efficiency Target defined in Section I.E (Technical Performance Targets) of the FOA, refers to the total light striking the module area, there is no consideration of fill factor in this definition.